Remarks

Claims 21 to 23 and 30 are amended. Claims 21 to 30 are pending in this application of which only claims 21 and 30 are in independent form.

Independent claims 21 and 30 are amended herein to emphasize it is the slope (dU/dt) of the signal (U) which is applied for detecting one of the operator-controlled functions. The antecedent basis herefor is provided in the applicants' disclosure, for example, on page 6, line 11 and lines 20 and 21.

Claims 21 and 28 to 30 were rejected under 35 USC 102(b) as being unpatentable over Kato et al. The applicants will now show that independent claims 21 and 30, as amended, patentably distinguish the their invention over this reference.

From Kato et al, it is known to continuously measure the position of the accelerator pedal as noted in paragraph [0047] of this reference. Furthermore, it is known from Kato et al to assign a first pedal pressing force to the normal operating range of the accelerator pedal from "fully closed" to "fully opened" and to assign a second pedal pressing force to the "kickdown" actuation range of the accelerator pedal. In this way, and based on the change of the pedal pressing force, the driver recognizes that the accelerator pedal has reached its kickdown position [0035]. In the subject matter of Kato et al, a correction of the measured value for the accelerator pedal position with the actually reached degree of actuation of the accelerator pedal takes place [0013].

Such a correction of the sensor for determining the degree of actuation of the operator-controlled element is not the subject matter of applicants' claims 21 and 30. Instead, claims 21 and 30 provide a reliable correlation of two degrees of displacement of the operator-controlled element to the operator-controlled function wanted by the driver independent of the wear and the temperature drift of the sensor for determining the degree of displacement of the operator-controlled element and independently of the bearing play and the deformation especially of plastic parts of the operator-controlled element (especially of the accelerator pedal) so that the operator-controlled function wanted by the driver is reliably recognized and can be realized without the need of a sensor correction as set forth in Kato et al.

For this purpose, and in contrast to Kato et al, it is not the degree of displacement of the accelerator pedal itself which is determined in order to determine the operator-controlled function wanted by the driver; instead, the spring constant, that is, a slope (dU/dt), which characterizes the spring constant, is determined and this results with the instantaneous displacement of the accelerator pedal. Thus, claim 21 includes the features and limitations of:

> "determining a slope (dU/dt) of said signal value (U) characterizing one of said spring constants corresponding to the instantaneous degree of the displacement of said element; and,
>
> supplying said slope (dU/dt) to a detector for detecting one of the operator-controlled functions of said element in dependence upon said

slope (dU/dt)."

The operator-controlled function wanted by the driver is detected with the aid of the slope (dU/dt) characterizing the particular spring constant which corresponds to the instantaneous degree of displacement of the operator-controlled element. The slope (dU/dt) referred to above which characterizes the spring constant can, for example, be selected from the slope of a time-dependent course of the sensor signal value (U) for the degree of displacement of the operator-controlled element (please see FIGS. 1 and 2 of applicants' drawings). Such an evaluation of the slope of the time-dependent course of the sensor signal value (U) is nowhere suggested in Kato et al.

In rejecting especially the last two clauses quoted above in claim 21, reliance is placed in the action on paragraphs [0046] to [0048]. The pertinent portion of this material involving the output signal 14a referred to in the action starts at paragraph [0048]:

> "[0048] The data input control device **14** includes the preset output value storage **15** for storing each preset output value (correction value) that corresponds to the corresponding predetermined operational position of the accelerator pedal **2**. That is, the data input control device **14** can determine the predetermined operational position of the accelerator pedal **2** based on the angular position data of the accelerator pedal **2** and the pressing force applied to the accelerator pedal **2**, which are all received from the pedal position measuring means **13**. Thus, when the accelerator pedal **2** is pressed and is positioned to the predetermined operational position, the preset output value (correction value) of the predetermined operational position of the accelerator

> pedal **2** stored in the preset output value storage **15** is retrieved and is outputted to the correction output value storage **12** along with the output value **11***a* of the measurement device **11** measured at the predetermined operational position of the accelerator pedal **2**. In the correction output value storage **12**, the preset output value (correction value) retrieved from the preset output value storage **15** and the output value **11***a* of the measurement device **11** are stored as a pair. The correction output value storage **12** can store more than one preset output value (correction value) and the corresponding output value **11***a* of the measurement device **11**." (emphasis added)

From the above, it can be seen that the data input control device 14 determines the operational position of the accelerator pedal based on the angular position data of the accelerator pedal and the pressing force applied to the accelerator pedal. This data is transmitted to the correction output value storage 12 as indicated by the signal quantity 14a.

Applicants submit that there is no indication that a slope is determined in Kato et al utilizing the quantity 14a as set forth in applicants' claim 21 with the clause:

> "determining a slope (dU/dt) of said signal value (U) characterizing one of said spring constants corresponding to the instantaneous degree of the displacement of said element; and,
>
> supplying said slope (dU/dt) to a detector for detecting one of the operator-controlled functions of said element in dependence upon said slope (dU/dt)."

Quantity 14a is simply information transmitted to a storage unit in Kato et al. Also, the storage unit 12 of Kato et al is

characterized in the action as a detector for detecting one of the operator-controlled functions of said element in dependence upon the quantity 14a.

There is no hint here that a slope is determined, let alone that the output value storage 12 acts as a detector to detect one of the operator-controlled functions of the operator-controlled element in dependence upon the slope of a quantity 14a.

In view of the above, applicants submit that claim 21 should now patentably distinguish the applicants' invention over Kato et al and be allowable. The remaining claims 22 to 29 are all dependent from claim 21 so that they too should now be allowable. Also, claim 30 parallels claim 21 in an apparatus context and this claim too has been amended to be coextensive with claim 21 so that it too should be allowable.

Claims 22 to 27 were rejected under 35 USC 103(a) as being unpatentable over Kato et al in view of Kuretake. The applicants have shown above that claim 21 patentably distinguishes their invention over Kato et al and will now show that Kuretake does not fill the void left by Kato et al.

Kuretake discloses a control unit for detecting a degree of opening of an accelerator pedal and the degree of opening of a throttle flap. The throttle flap is controlled in dependence upon the accelerator pedal. In this way, an opening speed or closing speed of the throttle flap is determined in accordance with a set value. Kuretake is concerned with the fastest possible response of the throttle flap and to prevent an overshoot thereof. In contrast to the applicants' invention, Kuretake relates neither to the determination of an

operator-controlled function in dependence upon the displacement of the accelerator pedal nor as to an evaluation of the displacement of the accelerator pedal based on a slope characterizing the instantaneously acting spring constant.

From the above, it can be seen that Kuretake lies even farther away from applicants' invention as set forth in claims 21 and 30 so that it cannot possibly fill the void left by Kato et al.

It is true that Kuretake discloses a time-dependent continuous determination of the actuation of an accelerator pedal (column 6, lines 11 to 16). The time-dependent trace of the actuation of the accelerator pedal is, however, not evaluated, let alone, a determination of the slope of the time-dependent course of the degree of displacement of the accelerator pedal.

Accordingly, neither Kato et al nor Kuretake disclose the determination of a slope, which characterizes the spring constant corresponding to the instantaneous degree of displacement, nor do the applied references relate to the detection of operator-controlled functions of the operator-controlled element in dependence upon the determined slope which characterizes the spring constant as set forth in applicants' claims 21 and 30.

In view of the above, it can be seen that Kuretake cannot be combined with Kato et al by our person of ordinary skill to arrive at the applicants' invention.

Reconsideration of the application is earnestly solicited.

Respectfully submitted,

Walter Ottesen
Reg. No. 25,544

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

Phone: (301) 869-8950

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